

REMARKS

Claims 1-15 are pending in the application. Claim 1 has been amended. Support for this amendment can be found on page 12, lines 10-19, and page 13, lines 11-12. No new matter has been added.

Rejections under 35 USC 102(b)

Claims 1 and 6-11, have been rejected, as being anticipated by Rothberg *et al.* WO 97/15690 published May 1, 1997 ("WO 97/15690"). Applicants traverse for reasons detailed below.

The Examiner alleges that WO 97/15690 contains all of the constraints of claims 1 and 6-11. Examiner refers to page 37, lines 15-30 of WO 97/15690. This section describes digesting targeted nucleic acids with restriction enzymes that cut at specific target subsequences. These restriction enzymes leave 5' overhangs. These digested targeted nucleic acids are then incubated with "short" oligonucleotides that hybridize with the overhangs, in such a way that they produce their own 3' overhang. "Long" oligonucleotides hybridize with the 3' overhang. A polymerase is then used to create a blunt end. These added blunt ends are then used to amplify the sequence to be searched against a database. This process is used to create one sequence to be searched against a database. In this process, more than 5 nucleotides are added to the target subsequences as they are amplified. Additionally, there is only a single amplifying reaction occurring at a time.

The examiner's position is that claim 1 is anticipated by the disclosure of WO 97/15690. Applicants assert that amended claim 1 contains specific recitations not disclosed by WO 97/15690. As amended, claim 1 recites in step d that further sequence analysis is conducted by simultaneously running 4 parallel phasing reactions, with each of the 4 parallel reactions involving adding a different nucleotide to the one or more target subsequences in an amount up to five nucleotides in length. Such phasing reactions in which only a maximum of 5 nucleotides are added to the target subsequences are not disclosed by WO 97/15690. Applicants submit that claim 1 is not anticipated, as each of the elements of the claims is not disclosed by WO 97/15690. Applicants therefore request that this 102 rejection be withdrawn.

Rejections under 35 USC 103(a)

Claims 2-5 and 12-15 were rejected for obviousness as being unpatentable over WO 97/15690 in view of WO 99/07896. Applicants traverse for reasons detailed below.

The Examiner asserts that the combination of the disclosures of WO 97/15690 and WO 99/07896 would have made the subject matter of claims 2-5 and 12-15 obvious at the time of the invention was made to one of ordinary skill in the art. As asserted above, WO 97/15690 does not teach all the limitations of these claims, as it does not teach conducting further sequence analysis by simultaneously running 4 parallel phasing reactions, with each of the 4 parallel reactions involving adding a different nucleotide to the one or more target subsequences in an amount up to five nucleotides in length. WO 99/07896 teaches the use of an oligo-poisoning signal. It teaches unlabeled "poisoning" using primers. It teaches that this technique can be used to acquire increased resolution. It does not teach the use of the extended recognition means, and does not teach the generation of a second signal used to identify the sequence. Accordingly, applicants assert that the invention as claimed would not have been obvious to one of ordinary skill in the art because not all of the stipulations of these claims are taught by the prior art. Thus, Applicants request that this rejection be withdrawn.

CONCLUSION

Applicants submit that the application is in condition for allowance and such action is respectfully requested. This response should be timely filed with a two month extension on April 28, 2003 (April 26, 2003 was a Saturday). The Commissioner is hereby authorized to charge any fees due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 15966-632 (Cura-132).

Should any questions or issues arise concerning the application, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Applicants: Bader et al.
U.S.S.N. 09/755,398

Respectfully submitted,

Jean M. Coughlin Reg. No. 48,583

h

Ivor R. Elrifi, Reg. No. 39,529

Attorney for Applicant

MINTZ, LEVIN, COHN, FERRIS

GLOVSKY and POPEO, P.C.

One Financial Center

Boston, Massachusetts 02111

Tel: (617) 542-6000

Dated: April 28, 2003

TRA 1785786v1